

### Claims

1. Method for reducing noise caused by a quantization procedure during the signal processing of a digital display device by digitally filtering a signal charged with said noise with a digital filter having a plurality of filter coefficients, said signal including a matrix of video levels of pixels of said display device, characterized by varying at least one of said filter coefficients in dependence on the video level of the current pixel of said signal to be filtered.
2. Method according to claim 1, wherein said filtering includes one and/or two dimensional low pass filtering.
3. Method according to claim 1 or 2, wherein said filtering includes one and/or two dimensional median filtering.
4. Method according to one of the claims 1 to 3, wherein the value of a filter coefficient decreases when the luminance of a current pixel increases.
5. Method according to one of the claims 1 to 4, wherein the spatial dimension and/or the temporal direction of said digital filter varies with the video level of a current pixel.
6. Method according to one of claims 1 to 7, wherein, in case of a low pass filter, the coefficients are given by
 
$$\frac{1}{\sum_{i=0}^8 a_i} \begin{vmatrix} a_2 & a_3 & a_4 \\ a_1 & a_0 & a_5 \\ a_8 & a_7 & a_6 \end{vmatrix}$$
 with  $a_0=1$  and with  $a_i=f_i(x_0, x_1)$ .

7. Method according to claim 8, wherein, the function is the following:

$$f_{2n}(x_o, x_{2n}) = \begin{cases} \alpha & \text{if } |x_{2n} - x_o| \leq \Delta \\ 0 & \text{otherwise} \end{cases} \quad \text{and} \quad f_{2n+1}(x_o, x_{2n+1}) = \begin{cases} \beta & \text{if } |x_{2n+1} - x_o| \leq \Delta \\ 0 & \text{otherwise} \end{cases}$$

with  $\Delta$  a limit of neighbor.

- 5 8. Device for reducing noise caused by a quantisation during the signal processing of a digital display device including digital filter means for digitally filtering a video signal charged with said noise, said filter means having a plurality of filter coefficients, and said signal including a matrix of video levels of pixels of said display device,
- 10 characterized by  
controlling means connected to said digital filter means for varying at least one of said filter coefficients in dependence on the video level of the current pixel of said signal to be filtered.
- 15 9. Device according to claim 8, wherein said digital filter means includes one and/or two dimensional low pass filter.
- 20 10. Device according to claim 8 or 9, wherein said digital filter means includes a one and/or two dimensional median filter.
11. Device according to one of the claims 8 to 10, wherein the value of a filter coefficient is decreasable by said controlling means when the luminance of a current pixel increases.
- 25 12. Device according to one of the claims 8 to 11, wherein the spatial dimension and/or the temporal direction of a filter of said digital filter means is variable with the video level of a current pixel by said controlling means.